



## Early Journal Content on JSTOR, Free to Anyone in the World

This article is one of nearly 500,000 scholarly works digitized and made freely available to everyone in the world by JSTOR.

Known as the Early Journal Content, this set of works include research articles, news, letters, and other writings published in more than 200 of the oldest leading academic journals. The works date from the mid-seventeenth to the early twentieth centuries.

We encourage people to read and share the Early Journal Content openly and to tell others that this resource exists. People may post this content online or redistribute in any way for non-commercial purposes.

Read more about Early Journal Content at <http://about.jstor.org/participate-jstor/individuals/early-journal-content>.

JSTOR is a digital library of academic journals, books, and primary source objects. JSTOR helps people discover, use, and build upon a wide range of content through a powerful research and teaching platform, and preserves this content for future generations. JSTOR is part of ITHAKA, a not-for-profit organization that also includes Ithaka S+R and Portico. For more information about JSTOR, please contact [support@jstor.org](mailto:support@jstor.org).

P R O C E E D I N G S

O F T H E

A M E R I C A N P H I L O S O P H I C A L S O C I E T Y

VOL. XII.

1871.

No. 86

*Stated Meeting, January 6.*

Present, seventeen members.

GEO. B. WOOD, President, in the Chair.

Mr. Eckley Coxe, lately elected, was presented to the presiding officer and took his seat.

The resignation of Dr. D. F. Condie on account of ill health was received, and accepted.

A photograph of Mr. Thomas Davidson, dated Geological Society, Somerset House, London, Dec. 6, 1870, was received.

Letters of acknowledgment were received from the London Geological Society (Proceedings No. 82); the Smithsonian Institution (83); and the Swiss Society at Berne, dated November, 1869 (Proceedings, vols. X and XI).

Donations for the Library were received from the Moscow N. H. S., Boston Geological Society, Swiss Society, Bavarian Academy, R. Institution of G. B., London Meteorological, Chemical and Geological Societies, Leeds Philosophical Society, R. Dublin Society, Peabody Museum at Boston, Boston N. H. S., Silliman's Journal, American Antiquarian Society, Franklin Institute, College of Physicians, Penn Monthly, U. S. Observatory, the Treasury Bureau, and Editors of Nature.

The decease of Wm. Chauvenet of St. Louis, a member of the Society, at St. Paul, Dec. 13, 1870, was announced by the Secretary.

The decease of Joshua J. Cohen, a member of the Society, at Baltimore, November 4, 1870, aged 70 years, was announced by Prof. Trego.

The decease of Albert Barnes, a member of the Society, at Philadelphia, Dec. 24, 1870, aged 72 years, was announced by Mr. Fraley.

Dr. Geo. B. Wood communicated the results of experiments on the best method of reviving fruit trees.

Prof. Cope communicated the discovery of a new genus of fish from the Green River Country.

Mr. Chase described the methods adopted by the Meteorological Board of the Royal Society, which he had lately visited in London.

The Report of the Judges and Clerks of the annual election was read, by which the following members were declared duly elected to fill the respective offices of the Society for the ensuing year.

*President.*

George B. Wood.

*Vice Presidents.*

John C. Cresson, Isaac Lea, Frederick Fraley.

*Secretaries.*

Charles B. Trego, John L. LeConte,  
E. Otis Kendall, J. P. Lesley.

*Curators.*

Hector Tyndale, Elias Durand, Joseph Carson.

*Treasurer.*

Charles B. Trego.

*Counsellors to serve three years.*

Isaac Hays, Henry C. Carey,  
Robert E. Rogers, Robert Bridges.

Mr. Lesley was nominated Librarian.

Pending nominations for membership, Nos. 661 to 668 were read.

The Publication Committee reported upon the subject of the publication of Dr. H. C. Wood's Memoir of the Fresh Water Algæ of the United States.

The Report of the Finance Committee, postponed from the last meeting, was read by its Chairman, Mr. Fraley; and the sums recommended by the Committee were, on motion, appropriated for the expenses of the ensuing year. A further recommendation to increase the insurance on the Hall, was on motion adopted; and the meeting was adjourned.

REVIVAL OF FRUIT TREES *prematurely ceasing to bear fruit, or prematurely decaying*, by GEO. B. WOOD, M. D.

(Communicated to the American Philosophical Society, January 6, 1871.)

It is well known that most fruit trees, especially the peach and apple trees, in sites where they have been long cultivated, often cease to bear fruit, and even perish, long before their natural period. Thus the peach, which has a normal life of 50 or 60 years, or longer, and grows under favourable circumstances to the size of a considerable tree, generally, in this part of the United States, ceases to bear fruit after two or three years of productiveness, and soon after begins to decay, seldom living beyond 15 or 20 years. The apple tree also, long before it has attained its normal length of life, often ceases to yield fruit, either for a time or permanently, without apparent cause; and trees, planted on the site of an old orchard which has been removed, not unfrequently refuse to bear at all, or at least to a profitable extent.

It is obviously of great importance to discover the cause or causes of such failures, and, if possible, to apply a remedy or preventive. Unless I greatly deceive myself, I have succeeded in showing that the evil generally has its source in a deficiency of the salts of potassa in the soil, and may be corrected by supplying that deficiency.

The alkali potassa, in combination generally with one or another of the vegetable acids, is an essential ingredient in all plants, excepting the sea plants, in which its place is supplied by soda. In living vegetables it is contained dissolved in the juice, and is consequently most abundant in the most succulent parts; and, when the plants are burned, the alkali is left behind in the ashes, of which it constitutes an exceedingly variable proportion, according to the peculiar plant or part of the plant burned. Thus, while the ashes of oak wood contain only about 3 parts in 1000, those of the common poke, the growing wheat stalk, and the potato stems, contain 48 or 50 parts or more. The greater portion by far of the alkali is in the state of carbonate, with a little in the caustic state, and being, in these conditions, very soluble in water, is extracted by lixiviation